

# PATENT SPECIFICATION



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772.025

Date of filing Complete Specification: Aug. 19, 1955.

Application Date: Aug. 19, 1954.

No. 24195/54.

Complete Specification Published: April 10, 1957.

Index at acceptance:—Class 52(4), M1CX.

International Classification:—A47c.

## COMPLETE SPECIFICATION

### Improvements in or relating to Spring Mattresses or like Upholstery

1 We, BERNARD HICKS LIMITED, a British Company of Imperial Works, Bessborough Road, Harrow-on-the-Hill, in the County of Middlesex, do hereby declare the invention, for which we pray that a patent may be granted to us and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to spring mattresses, cushions, or like upholstery and has particular relevance in connection with the construction of demonstration mattresses by which it is possible to see the interior of the mattress.

15 The object of the present invention is to provide a mattress, cushion or the like having a spring interior in which substantially all of the interior constructional details may be appreciated whilst at the same time the mattress is usable as a mattress in the usual way. 20 Demonstration models of mattresses are known which incorporate small windows in one or other surfaces through which a part of the interior of the mattress may be inspected. However, such a mattress cannot be used in the normal way and in particular cannot be subjected to normal use and inspected interiorly at one and the same time.

25 In accordance with the present invention a spring mattress or like piece of upholstery includes for the whole or a substantial part of its outer cover sheet, a material of a flexible transparent tear resisting nature, this material extending to the normal sewn seams of the exterior of the mattress. An example of such a transparent flexible tear resisting material is sheet polyvinyl chloride.

30 In order that the invention may be clearly understood two embodiments will be described with respect to the accompanying drawings in which; 40

Figure 1 is a perspective view of a demonstration mattress having transparent sides and a transparent surface;

45 Figure 2 is a cross section of the mattress of Figure 1; and

Figure 3 is a perspective view of a further [Price 3s. 6d.]

embodiment of the invention having an entirely transparent cover.

Referring now to Figures 1 and 2 of the drawings, the mattress shown is particularly for demonstration purposes and consequently whilst it is of normal thickness the length and breadth are considerably reduced to make it easily handled in a shop or the like. It comprises a spring unit 1, an upper filling 2, a lower filling 3 and a case or cover 4. The spring unit is of the kind having upper and lower frames 5 and 6 of steel strip interconnected by coil springs 7 and reinforced at the upper and lower surfaces by grids 8 and 9 of parallel steel wires. The upper and lower spring surfaces are each covered with a layer of hessian 11 and 12 on each of which a layer of coarse fibre 13 and 14 respectively is secured. Outer layers of padding 15 and 16 respectively are provided and these are of different substances for summer or winter use in accordance with our prior Patent No. 577,083. Layer 15 for summer use is of a cotton felt mixture whilst layer 16 for winter use is a woollen felt mixture. The cover 4 includes upper and lower portions 17 and 18, side portions 19 and 21 and end portions 22 and 23. Handles 24 are provided in the end portions. The side portions 19 and 21 are of transparent sheet polyvinyl chloride and this material is of a tear resisting nature so that it may be secured by sewing to any other material. The end portions 22 and 23 are of ordinary textile material and are secured by sewing to the side portions 19 and 21. The upper portion 17 is of transparent sheet polyvinyl chloride and the lower portion 18 is of ordinary textile material. The upper end and lower portions are secured by sewing to the side and end portions and the sewn edges are covered in the usual way by binding 25. The layers of felting and fibre may be secured to the spring unit in any suitable manner or the cover itself may hold these layers in position.

In this demonstration mattress the interior of the spring unit may easily be seen and the

action may be appreciated when a load is applied. The edges of the felting and fibre layers may be seen and their construction appreciated. The outer portion 17 of the cover is also of transparent sheet polyvinyl chloride and shows clearly the outer surface of the felting 15 underneath. The portion 17 may be subjected to any of the usual tests applied to mattresses such as pressing on it by hand or sitting upon it without damaging it in any way, and at the same time the behaviour of the layer of felting may be adequately appreciated. It would not be a wise practice to use the sheet polyvinyl chloride for the surface of a mattress for normal use but it is, of course, possible in a normal mattress to make the sides and ends of the cover of transparent material without ill effect.

Referring now to Figure 3, the embodiment shown comprises a spring unit of the kind shown in Figures 1 and 2, enclosed entirely in a cover of transparent sheet polyvinyl chloride. The cover is made in the normal manner used for textile material and so the spring unit is made available for inspection from any angle. The cover is preferably not made air tight and when it is secured together by sewing, the holes made by sewing will provide sufficient air passages. The purpose is to prevent the cover itself acting as an air cushion when a load is applied.

The following modifications of these embodiments are possible within the scope of the invention. The padding material if used may be of any well known material for this purpose such as sponge rubber. The spring may be of any known form and need not be arranged as an integral unit. Any flexible transparent material may be used provided it has tear resisting properties. The transparent material may form any part or all of the cover. Where padding is provided, a part

thereof under the transparent material may be cut away to allow inspection of the spring or other interior feature of the mattress through the padding.

What we claim is:—

1. A spring mattress or like piece of upholstery including for the whole or a substantial part of its outer cover sheet a material of a flexible, transparent tear resisting nature, this material extending to the normal sewn seams of the cover sheet.

2. A spring mattress as claimed in claim 1 wherein the material of a flexible, transparent tear resisting nature is sheet polyvinyl chloride.

3. A spring mattress as claimed in either of claims 1 or 2 wherein the sides of the cover are made of the flexible, transparent tear resisting material.

4. A spring mattress as claimed in any preceding claim wherein one or both of the upper and lower surfaces of the cover is or are of the flexible, transparent tear resisting material.

5. A spring mattress as claimed in any preceding claim wherein the spring interior is of unitary construction.

6. A spring mattress as claimed in any preceding claim comprising solely a spring interior of unitary construction and a cover comprised entirely of flexible, transparent tear resisting material, the cover being formed by sewing upper and lower surface portions to side and end portions.

7. A spring mattress for demonstration purposes substantially as described with reference to Figure 1 and 2 or Figure 3 of the accompanying drawings.

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#### PROVISIONAL SPECIFICATION

#### Improvements in or relating to Spring Mattresses or like Upholstery

We, BERNARD HICKS LIMITED, a British Company, of Imperial Works, Bessborough Road, Harrow-on-the-Hill, in the County of Middlesex, do hereby declare this invention to be described in the following statement:—

This invention relates to spring mattresses or like upholstery and has particular relevance in connection with the construction of demonstration mattresses by which it is possible to see the interior of the mattress.

The object of the present invention is to provide a mattress in which substantially all of the interior constructional details may be appreciated whilst at the same time the mattress is usable as a mattress in the usual way. Demonstration models of mattresses are

known which incorporate small windows in one or other surfaces through which a part of the interior of the mattress may be inspected. However, such a mattress cannot be used in the normal way and in particular cannot be subjected to normal use and inspected interiorly at one and the same time.

In accordance with the present invention a spring mattress or like piece of upholstery includes for the whole or a substantial part of its outer cover sheet, a material of a flexible transparent tear resisting nature, this material extending to the normal sewn seams of the exterior of the mattress. An example of such a transparent flexible tear resisting material is sheet polyvinyl chloride.

In one embodiment of the invention the interior of the mattress comprises a spring unit of a plurality of interconnected helical springs which may or may not be secured to upper and lower spring steel edge members. On the upper and lower surfaces of the spring successive sheets of hessian, felt, sponge rubber or other resilient packings are located. The cover surrounding the spring interior and the various upper and lower layers, comprises an upper and lower sheet of transparent polyvinyl chloride sheet, these sheets being secured together around the thickness of the mattress by means of two further pieces of sheet polyvinyl chloride extending on opposite sides along the length or part of the length of the mattress. The remainder of the material securing the upper and lower sheets of polyvinyl chloride is of normal mattress casing material suitably decorated as it would appear in a normal completed mattress. This material extends across the ends of the mattress and around the corners to join up with the polyvinyl chloride sheet extending along the length of the mattress. The sewing of the upper and lower sheets of polyvinyl chloride to the edge material is done in the normal way which comprises simply sewing the two pieces of material together and at the same time applying a binding strip round the edges of the material producing the typical upper and lower piped edges of the mattress. This mattress, when completed, enables substantially the entire interior of the mattress to be seen, also the layers of material applied to the upper and lower surfaces of the spring interior. Where the outer layers of

padding are of different qualities of material for summer or winter use, the material may be seen through the upper or lower sheets of polyvinyl chloride as it appears in use.

Such a mattress may be inspected whilst it is subjected to compression such as a person sitting or laying upon it and the action of the springs may be easily appreciated. By this means a prospective purchaser may see in the demonstration model the exact interior of the mattress which for normal use, of course, is sold having an entirely fabric cover. The resistance of polyvinyl sheet to tearing is such that it can be successfully used in place of the normal fabric and the mattress may be subjected to normal use without any tearing of the stitched edges of the sheet occurring.

Whilst this invention is directed principally to the construction of demonstration mattresses, it is within the scope of this invention to provide mattresses for ordinary use having the portions of the exterior cover of transparent flexible tear resisting sheet. In a mattress for use rather than demonstration, however, such sheeting would be secured only around the edges or part of the edge of the mattress so that the interior of the mattress may be inspected at any time. The upper and lower surfaces of such a mattress would be of ordinary fabric which allows the circulation of air.

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Fig.1.

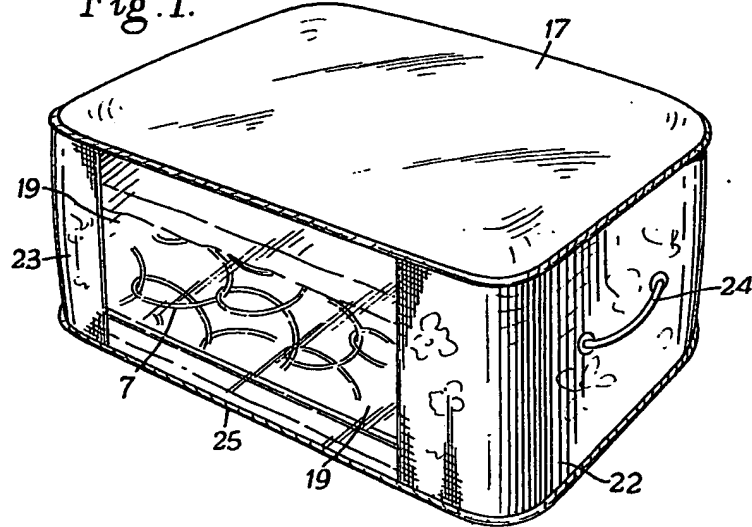


Fig.2.

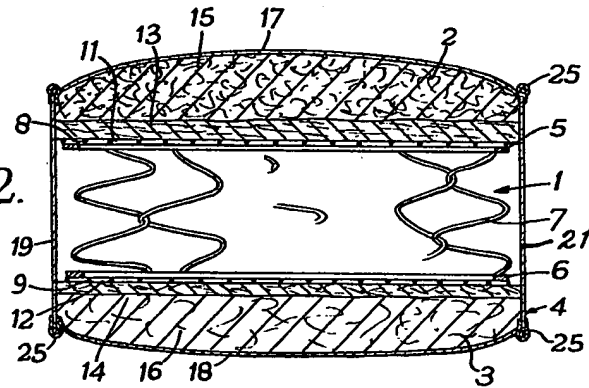


Fig.3.

